

Supplementary Materials

Continuous hydrothermal liquefaction of biomass in a novel pilot plant with heat recovery and hydraulic oscillation

Konstantinos Anastasakis¹, Patrick Biller¹, René B. Madsen², Marianne Glasius², Ib Johannsen^{1,*}

¹ Biological and Chemical Engineering, Department of Engineering, Aarhus University, Høngøvej 2, 8200 Aarhus N, Denmark; kanastasakis@eng.au.dk (K.A.); pbiller@eng.au.dk (P.B.)

² Interdisciplinary Nanoscience Center and Department of Chemistry, Aarhus University, Langelandsgade 140, 8000 Aarhus C, Denmark; rema@inano.au.dk (R.B.M.); glasius@chem.au.dk (M.G)

* Corresponding author: E-mail: ibj@eng.au.dk; Tel: +4521356050

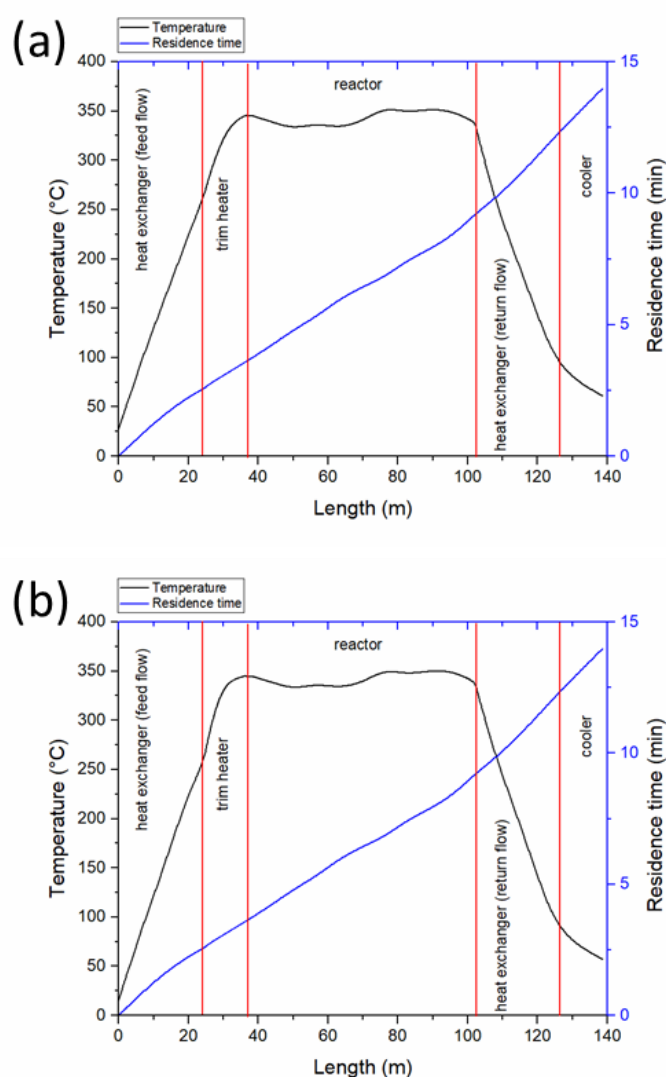
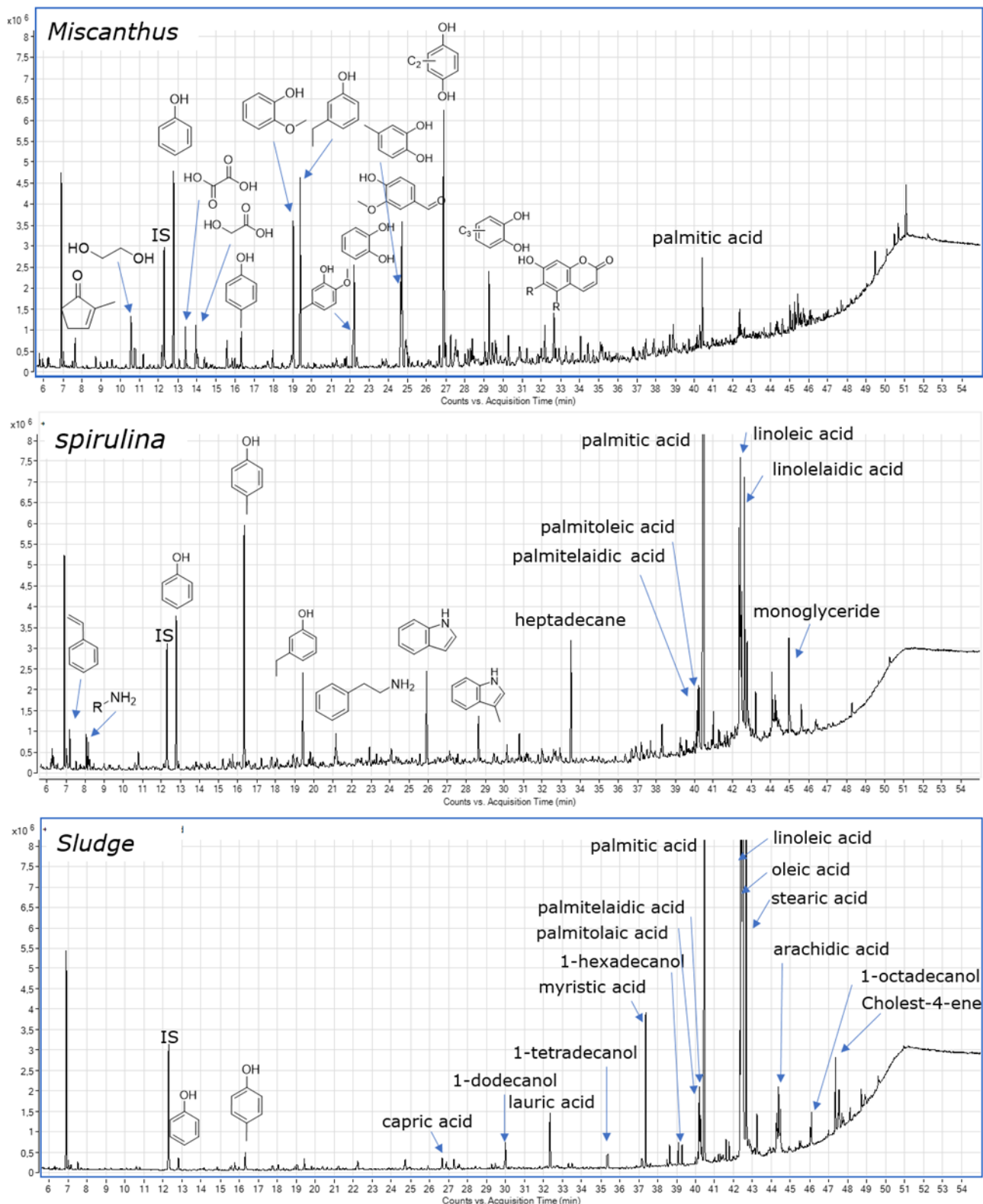


Figure S1. Temperature profiles and residence time distribution in the different HTL process units (heat exchanger-feed flow, trim heater, reactor, heat exchanger-return flow and cooler) at 220bar for HTL of (a) *Spirulina* and (b) sewage sludge

Figure S2. GC-MS chromatograms of bio-crudes from HTL of *Miscanthus*, *Spirulina* and sewage sludge